User Manual

For

MDVRHB9605

Mobile Digital Video Recorder Hybrid Series

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Notice

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without any notice.

The purpose of this manual is to kindly aid the user for the operation for our MDVRHB. The user should have a basic understanding of computer operation and basic knowledge of how to connect peripherals and make some settings.

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Guarantee & Warnings

1) **Electrical Apparatus Safety**
   All installation and operation should comply with local electrical safety norms.
2) **Transportation**
   In the process of transportation, storage and installation, please avoid heavy stress, violent vibration, impact and water splashing.
3) **Installation**
   Install the equipment in accordance with the requirements, handle carefully. Do not heavily press the equipment before the MDVRHB installation is finished.
4) **Requirements on Engineers & Technicians**
   All the work of checking and maintenance should be done by qualified technicians and engineers. We do not undertake any responsibility caused by unauthorized modifications.
5) **Requirements on Environment**
   The equipment should be installed and stored in a cool and dry place, away from direct sunlight, flammable or explosive substances, etc. Keep gaps not less than 3cm around the device to facilitate ventilation for cooling.
6) **Accessories**
   Make sure to use accessories from the manufacturer recommended in the attachment.
   Insulate circuit ground and metal shell for all the peripherals.
   Before installation, please open the package and ensure that all parts are included.
   If there are any problems, please contact us as soon as possible.

Contents

1. PRODUCT CHARACTERISTICS 6
   1.1. OVERVIEW 6
   1.2. SPECIFICATIONS 6
   1.3. SYSTEM DIAGRAM 8
   1.4. EXTERNAL INTERFACE 8
   1.5. HARD DISK INSTALLATION 11
   1.6. SIM CARD INSTALLATION 12
   1.7. DEFINITION AND PICTURES OF EXTERNAL CABLES 13
2. LOCAL MANAGEMENT 14
   2.1. LOGIN INTERFACE 14
   2.2. RECORD SEARCH: 17
   2.3. LOG SEARCH 20
   2.4. SYSTEM STATUS 22
   2.5. BASIC SETUP 24
      2.5.1. REGISTER INFOMATION (SETUP VEHICLE INFORMATION) 24
      2.5.2. TIME SETUP 26
      2.5.3. START UP 28
      2.5.4. USER SETUP 29
      2.5.5. NETWORK 30
      2.5.6. APPLICATION 34
   2.6. SURVEILLANCE 34
      2.6.1. LIVE VIEW 35
      2.6.2. RECORD 36
      2.6.3. IPC SETUP 40
      2.6.4. PTZ 42
   2.7. DATA COLLECTION 42
      2.7.1. GENERAL 42
      2.7.2. SNAP SETTING 44
      2.7.3. ECO-DRIVING 46
   2.8. ALARM 47
      2.8.1. BASE 47
      2.8.2. VIDEO 54
      2.8.3. ADVANCE 57
   2.9. MAINTENANCE 58
      2.9.1. CONFIGURATION 59
      2.9.2. DATA EXPORT 59
      2.9.3. UPGRADE 60
      2.9.4. STORAGE 61
      2.9.5. DEFAULT 62
3. WEB MANAGEMENT 62
   3.1. LOGIN INTERFACE 62
   3.2. MAIN INTERFACE 63

3.3. PLAYBACK 64
3.4. MAINTENANCE 66
3.4.1. BASIC INFORMATION 67
3.4.2. DEVICE MODULE 67
3.4.3. STORAGE DEVICE 68
3.4.4. VERSION INFORMATION 69
3.5. CONFIGURATION 69
4. STORAGE CAPACITY CALCULATION 71
5. FREQUENTLY ASKED QUESTIONS 72

1. PRODUCT CHARACTERISTICS

1.1. OVERVIEW

MDVRHB9605 is a functional Mobile Digital Video Recorder Hybrid Series specially designed for vehicle video surveillance and remote monitoring. It has a high-speed processor and embedded operating system, combining with the most advanced H.264 video compression / decompression technology, 3G network (Optional), GPS positioning technology, as well as WIFI (Optional). It supports not only video recording in 720P, WD1, WHD1, WCIF, D1, HD1 and CIF formats, but also vehicle travel information recording and wireless data upload. With center software it also achieves alarm linkage central monitoring, remote management and playback analysis. It is easy to use with simple design, multi-functions, superior anti-vibration, flexible installation and high reliability.

1.2. SPECIFICATIONS

Function Overview		Preview, Recording, Playback, Network, Locating
System	OS	Linux 3.0.8
	Control Mode	LCDCP7-TS, MNVR-EC, Network, Mouse
Video	Input	4 channels WD1+1 channel 720P
	Output	1 channel
	Total Resource	(4x30)FPS WD1 NTSC / (4x25)FPS WD1 PAL (1x30)FPS 720P
	Video Signal Standard	Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional
Audio	Input	5channels (1 channel IPC audio input)
	Output	1channel
	Audio Signal Standard	Electrical level: 2Vpp Input impedance: 4.7kΩ
Display	Display Split	1/4/9
	OSD	GPS information, alarm, vehicle No., speed, date/time
	Operation Interface	Semi-transparent GUI
Recording	Video/Audio Compression	Video: H.264
		Audio: ADPCM, G.711A , G.711U
	Image Resolution	Analog: NTSC:WD1(928X480),WHD1(928X240), WCIF(464X240),D1(704x480),HD1(704x240), CIF(352x240); PAL:WD1(928X576),WHD1(928X288), WCIF(464X288),D1(704X576),HD1(704x288), CIF(352x288); Digital: 720P(1280X720);

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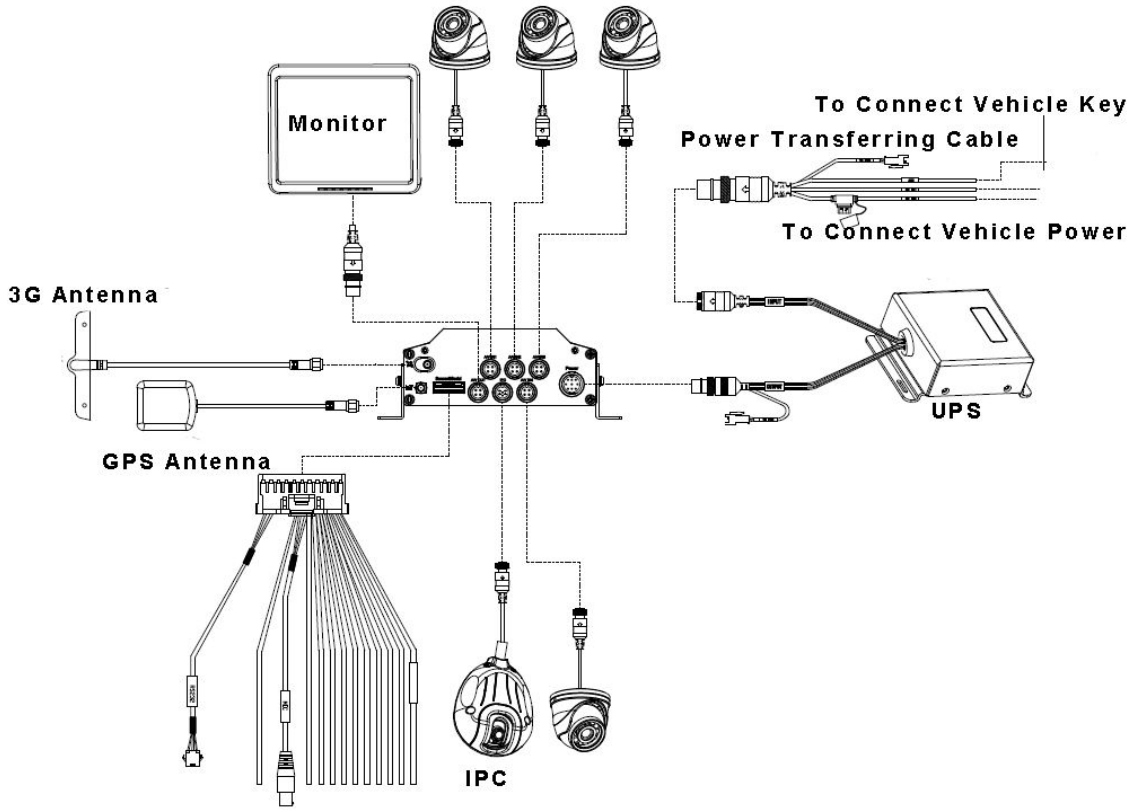
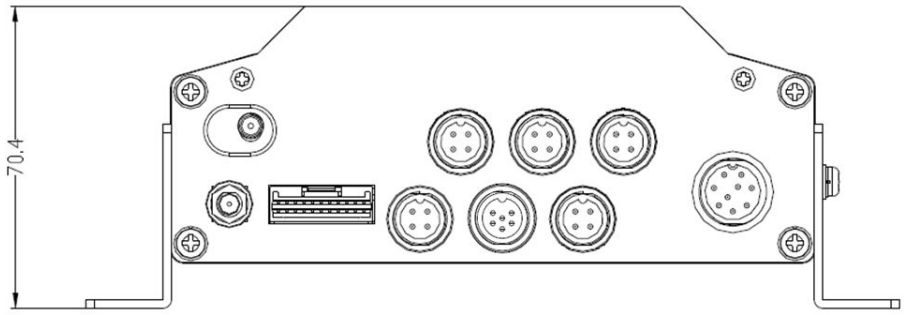
	Image Quality	1-8 levels adjustable (1 is the best)
	Recording Mode	Boot up/Manual/Schedule/Alarm
	Pre-recording	0-60minutes
	Post-recording	0-30 minutes
Playback	Playback Channel	1 channel by local playback
	Search Mode	Date/time, channel, event
Network	3G	EVDO/WCDMA (Optional)
	WIFI	802.11b/g/n (Optional)
	Network connection	WIFI/3G (Optional)
	IPC Ethernet	6-pin M12(10/100M x 4, PON power supply)
Locating	GPS (Included)	Location tracking, speed detection and time sync
Storage	Hard Disk	2.5" SATA hard disk x 1 (1TB included)
Interface	USB	USB2.0 x 1
	SIM	SIM slot x 1
	RS232	RS232 x 1
	Sensor	8 inputs, 2 outputs
	Speed	1 channel pulse speed detection
	Control panel	LCDCP7-TS (Optional)
	Intercommunication	I mic interface
Power	Input	DC8-36V,Ignition signal
	Output	5V@1A
	Max Power Consumption	32W
	Standby Power Consumption	≈0W
Physical Characteristic	Dimension (L × W × H)(mm)	206.0 x 170.0 x 70.4
	Weight (with hard disk)	1.24Kg
Environment	Operating Temperature	-40℃- +70℃(With heater) or -10℃- +70℃
	Operating Relative Humidity	8%-90% (No Condense)

1.3. SYSTEM DIAGRAM



1.4. EXTERNAL INTERFACE

DIMENSION (Unit: mm)



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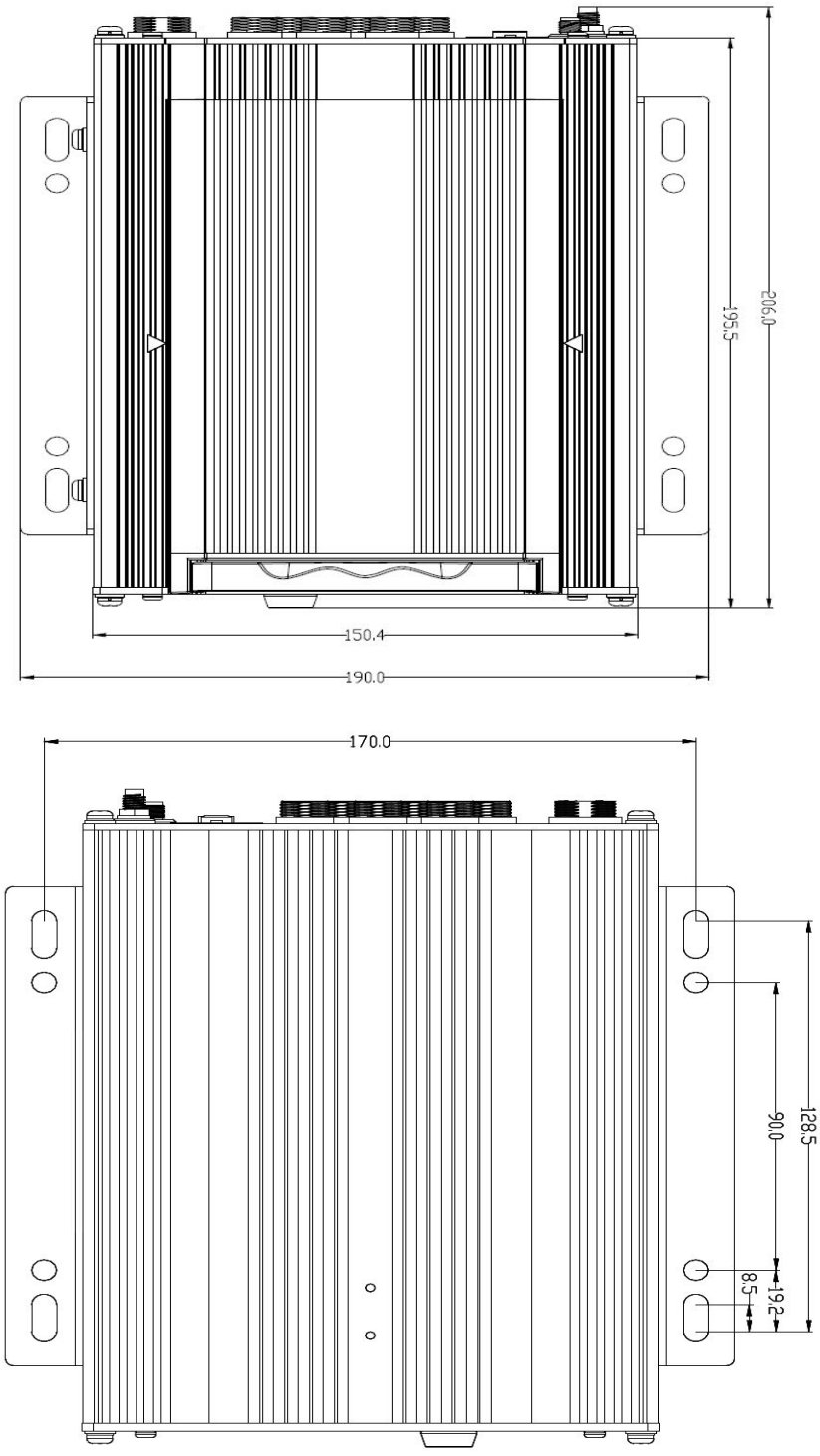

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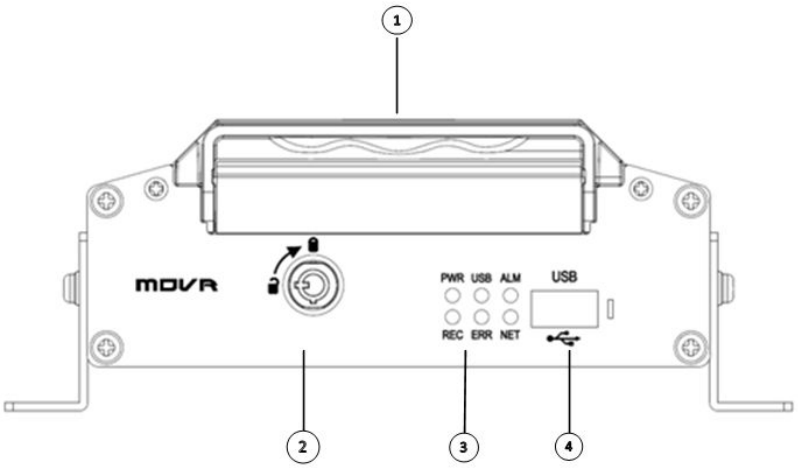
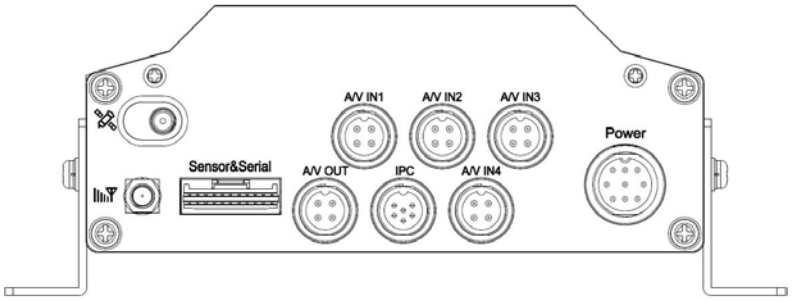
FRONT PANEL



Serial No.	Description
1	Hard disk module
2	Lock
3	Status LED
4	USB interface

REAR PANEL



Serial No.	Print	Description
1	Power	DC 8-36 V Power Input
2	Sensor & Serial	The Interfaces of Serial Port and Switch
3	A/V IN1~4	Audio & Video Input 1-4
4	A/V OUT	Audio & Video Output
5	IPC	The Interface of PON Power Supply
6		GPS Antenna Interface (Included)
7		3G/WIFI Antenna Interface (Optional)

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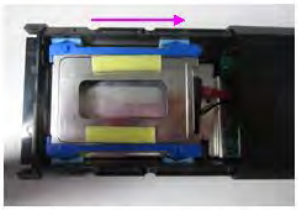
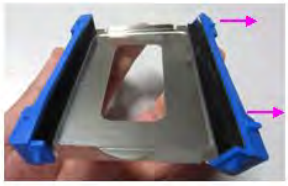
1.5. HARD DISK INSTALLATION



Get out of 4 screws at the bottom of hard disk box. Pull the shelf out.

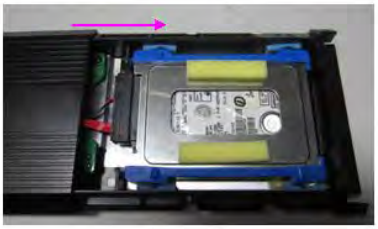


Get out of the shock absorber. Tear one side of it to a certain angle.(Get rid of both rubbers of shock absorber when the thickness of hard disk is 9mm. Keep the rubbers when it is 7mm)

Slot the hard disk slant into the shock absorber. (Keep the hard disk board outward.)

Press the four angels tightly to the shock absorber.

Connect SATA cable to hard disk. Put the shock absorber into the shelf. (Yellow anti-vibration cotton is up)



Push the shelf into the box and screw 4 screws.

Correct installation VS Wrong Installation：

Correct Installation
(Yellow aniti-vibration cotton is up)

Wrong Installation

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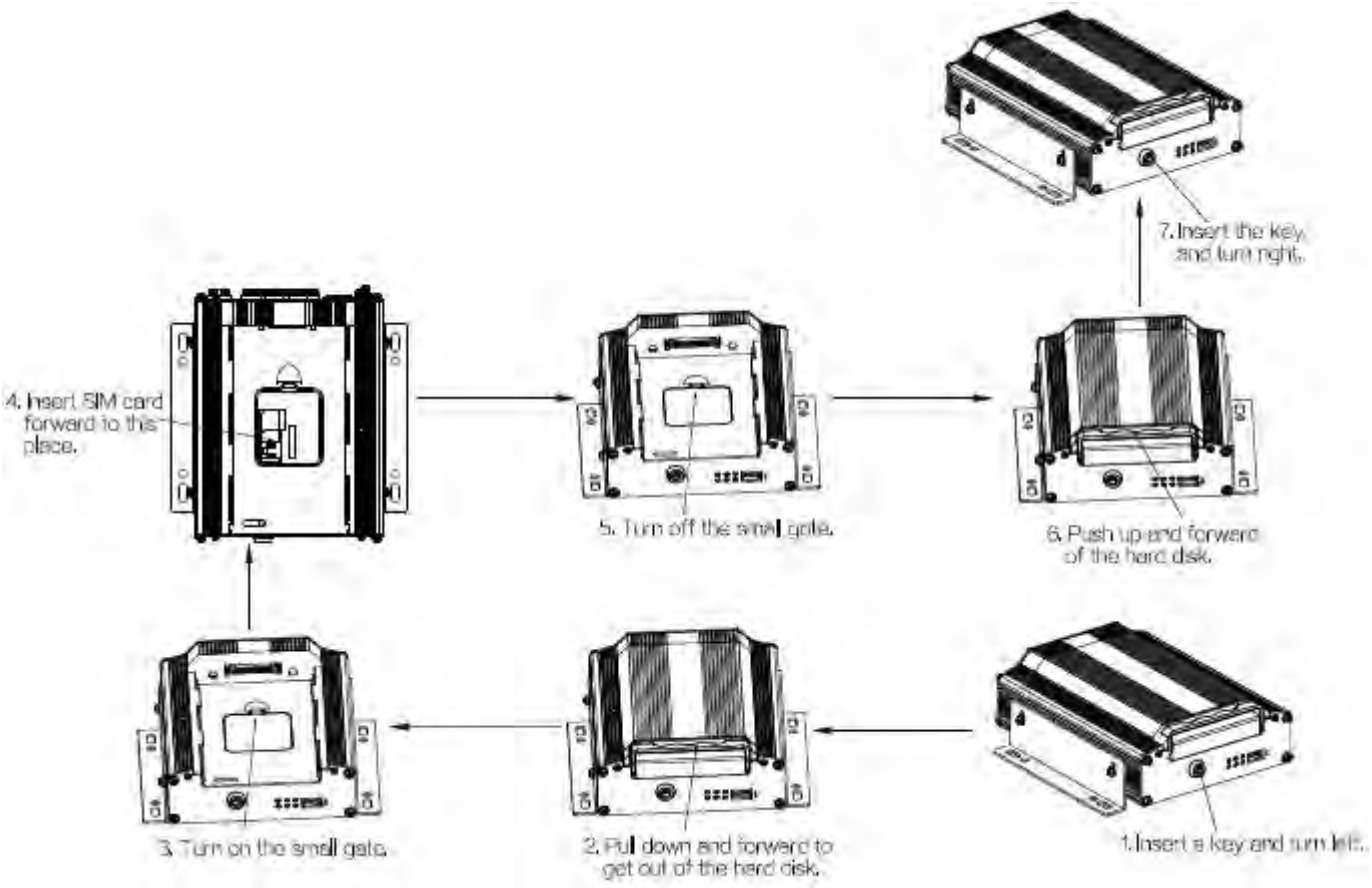
1.6. SIM CARD INSTALLATION


7. Insert the key and turn right.
4. Insert SIM card forward to this place.
5. Turn off the small gate.
6. Push up and forward of the hard disk.
3. Turn on the small gate.
2. Pull down and forward to get out of the hard disk.
1. Insert a key and turn left.

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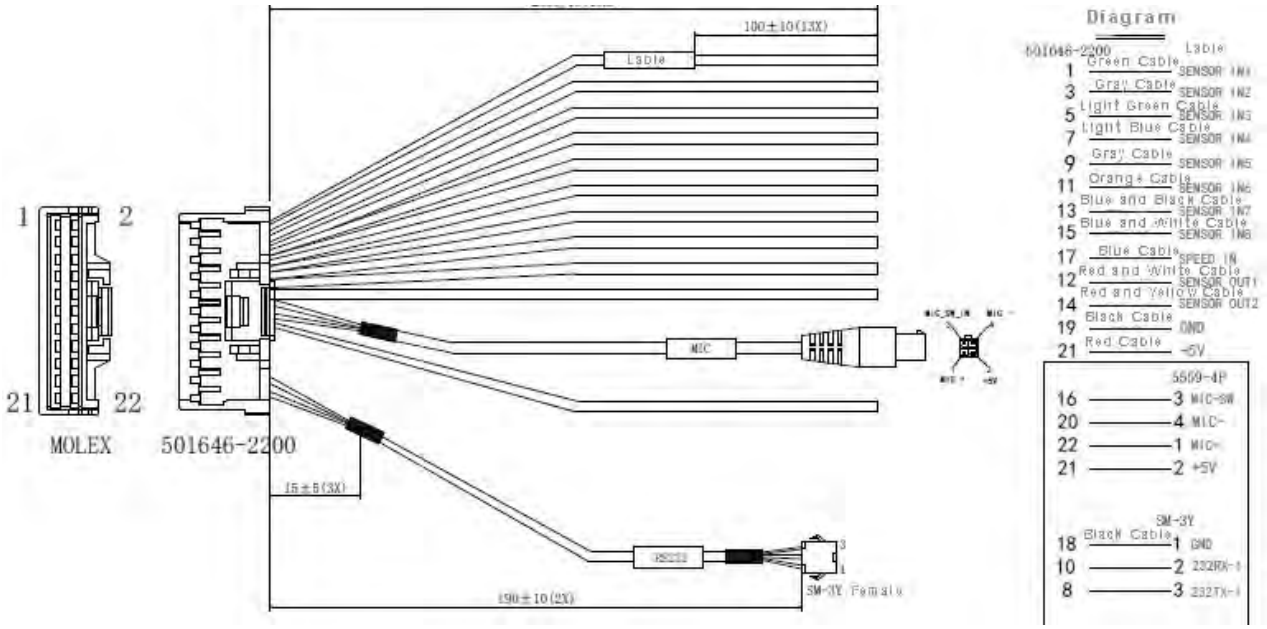
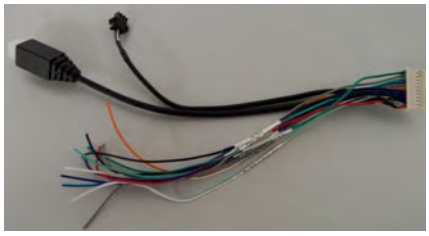
1.7. DEFINITION AND PICTURES OF EXTERNAL CABLES

ALARM CABLE DEFINITION





Alarm and Serial Cables (Optional)

A/V OUT Cable (For LCDCP7-TS) (Optional)

2. LOCAL MANAGEMENT

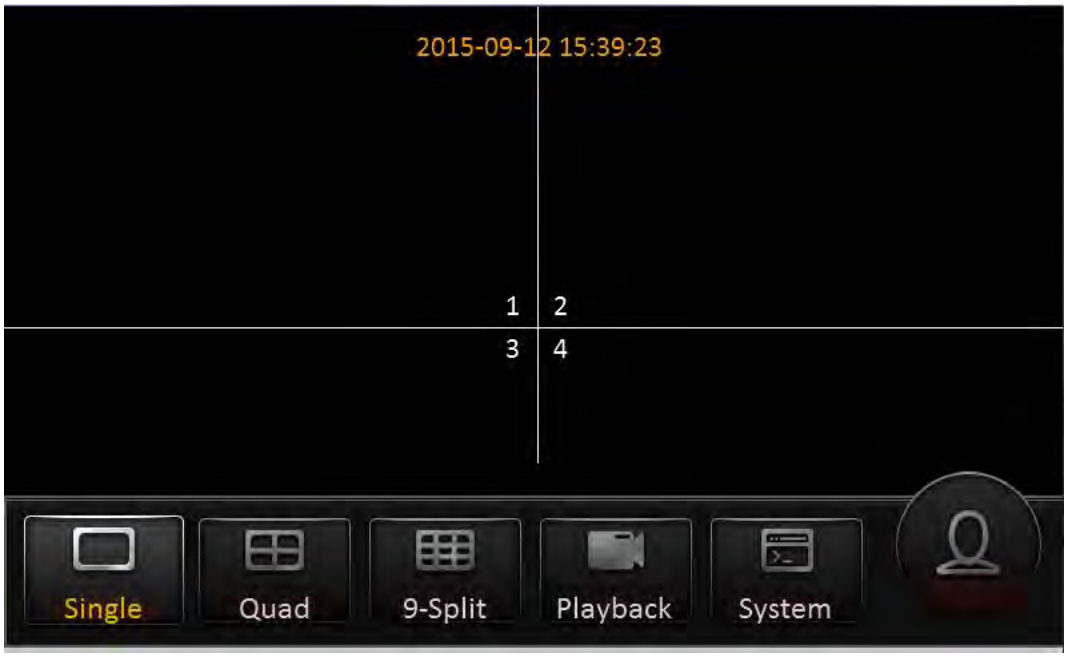
N9M supports 3 kinds of local setting methods:

1) Connect monitor to mobile DVR and make sure it can play real time output image. Then connect mouse to USB interface at the front panel to have MDVR parameter setting.
2) Connect the touch panel LCDCP7-TS to mobile DVR to have MDVR parameter setting.
3) Connect the MNVR-EC to USB port of mobile DVR and via WIFI you could have access to MDVR parameter setting.

2.1. LOGIN INTERFACE

When operate the device, user needs to have permission certified.

1) Press the remote control 【LOGIN / LOCK】or【SETUP】, the login screen will pop up.
2) Right click the mouse, the shortcut menu will pop up, left click login picture, login screen will pop up.
3) Left click on the login button to login and right click to log out.



Login Notice:

1) Software is automatically assigned by user name and password, it can be divided into user and administrator privileges.
2) Password options cannot be closed, but it can be set to null; when it is empty, user do not need to enter the password to login。

Login interface Introduction:

- **User name：**

1) Select users from the drop-down box. There are admin and user as defaults.
2) Currently, it can show two users and one admin.

- **Password：**

1) User can enter the operation interface if entering the right password;
2) User must enter the right password again if entering the wrong ones;
3) Click cancel to exit the login interface;

- **Language：**

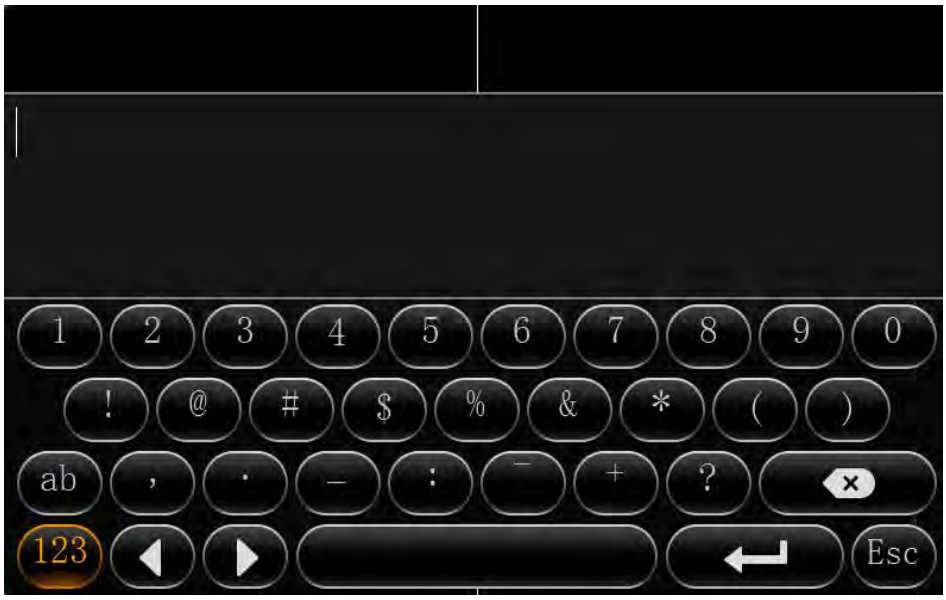
1) It supports language switch "language".
2) It will automatically switch once selecting the language.
3) Currently, it supports Chinese and English;
4) After switching languages, it will not restore language option when user restores the factory Settings;

Default password and permission table is as follows:

Default Password	Related User	Related Authority
admin	admin	All Authorities
User	user	Search and playback

The password input Instruction:

1) User can set password with remote controller (only applicable to some models), mouse or touch panel LCDCP7-TS. Move cursor to password, click Enter and enter the right number.



2) Move the cursor to the number position, press【Enter】or left click mouse button to select the corresponding number.
3) Move the cursor to 【123】, press 【Enter】or mouse to choose input type, such as numbers, letters, or special characters.
4) 【ab】means lower case letters,【123】means numbers,【AB】means capital letters; the highlighted place of background refers to the current cursor position.
5) Move Cursor to , Press【Enter】or left click mouse to move between the contents that have entered.
6) Move Cursor to , Press 【Enter】or left click mouse to delete the previous input contents.
7) Move Cursor to , Press 【Enter】or the left click mouse to exit the keypad, the entered contents will be written to the edit box.
8) Move Cursor to【Esc】 position, Press【Enter】or the left click mouse to exit the keypad, the entered contents will not be written to the edit box.

Main interface

2.2. RECORD SEARCH:

Video search interface contains video file search, video data backup and video playback function.

When there is a hard disk or SD card, enter the video search interface. Following is the REC Search interface:

In the calendar, the color below the dates means:

a. **No color** means no video.

b. **Green** means common video.

c. **Red** means alarm video.

d. **Yellow** means there are alarms and the video files are automatically lock (lock video).

Source: select the source of the video, there are main video, sub video and mirror video.

The main record means HDD record while sub record and mirror record are dual-stream records.

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Select the date with record, click next, and then enter the following interface:
Following are the search options and search result interface:

Video type: User can choose all record, alarm record or normal record.
Channel: The channel is optional and mark with color that has record. The channel with gray cannot be chosen if there is no record. As to different record type, it will show different relates.
Click search button in the record search detail page, user can enter then record search result page.
Time Bar: Time bar shows three time points, 0 o'clock, 12 o'clock, 24 o'clock. It shows what type of videos during the time according to the marked channel.
Channel No: According to the situation of video for each channel video the day, the video will be displayed on the time line. Tick the channel if user wants to playback the video.
Note: channel number is displayed from 1~20, please up page up/page down button to change channel

Button description

Video playback: Choose the channel No., select start time to play < default start from 0 >, click the playback button to playback the video.

In playback interface, user can choose fast forward or fast backward to play the video, the button in the middle of screen can switch the channels. The image stops and it will not exit automatically when playing to the last video of the day.

Time period settings: Click the time setting button, select start time and end time, it will back up or playback the video in the selected time period. Click clip to export the video, the file format can be.264< comprehensive file >, also can be.avi format.

Video export: Select the channel that has the video files, click this button, all the video files in the effective time period will be exported to the external USB peripherals, file format can be.264<comprehensive file >, also can be avi format.

User can also get out the hard drive or SD card, export and playback the video by professional software.

2.3. LOG SEARCH

In the log search interface, it records and displays all alarm events and login operation log. Enter the "log query", the interface will be shown as following:

Log Search interface instruction:

Calendar: the date with log will be marked on the calendar with green color.

Remark: There is no color classification in the “log mark”, and all are green ones.

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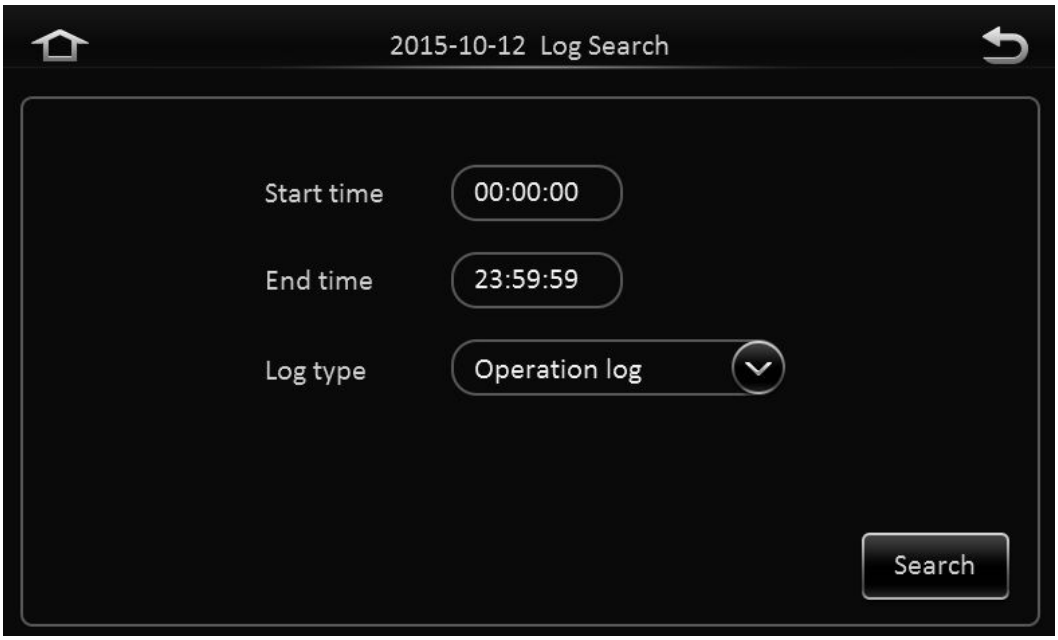

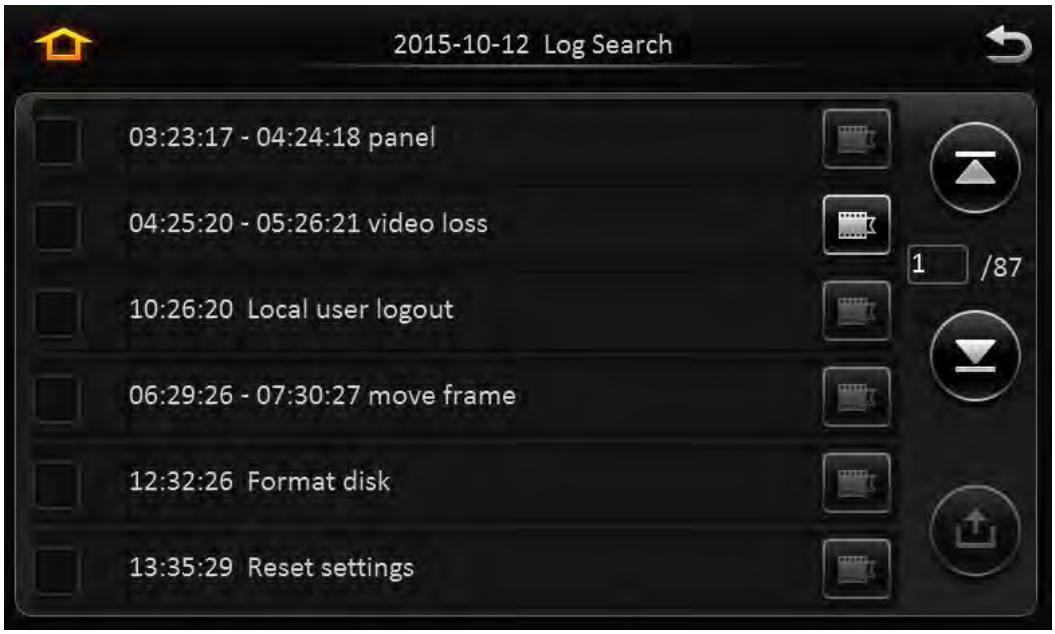

Log search interface instruction:

Start time: the start time for searching log files

End time: the end time for searching log files

Log types: classification of log search, including the operation log and alarm log and locking log

Operation log search interface instruction

Log includes the following information:

Log time: the time when event is triggered

Log name: event content

Supports page up/page down and export all log files of the specified date.

Do not support link to video file.

Log search

Alarm type: It includes all alarms, IO alarm , panic alarm and over speed alarm.

Log includes the following information:

Log time: the time when event is triggered
Log name: event content
Supports page up/page down and export all log files of the specified date.

Supports link to video file, click on button to playback video files

Lock log search

Log includes the following information:
Log time: the time of when event triggered.
Log name: event content
Log will be recorded according to channel number, each channel will have a lock log file.
Support page up and page down.
Can't export all log files of the specified date.

Can link to video file, click on button to playback video files.

Unlock: Select log, and unlock it. Then the alarm log of lock will be cleared.

Remark:

When lock the video file, system will record alarm log and lock log. The locked video file can only be unlocked from alarm log.

2.4. SYSTEM STATUS

User can login the interface with no access restrictions.

- System- Version information

- System- Modules

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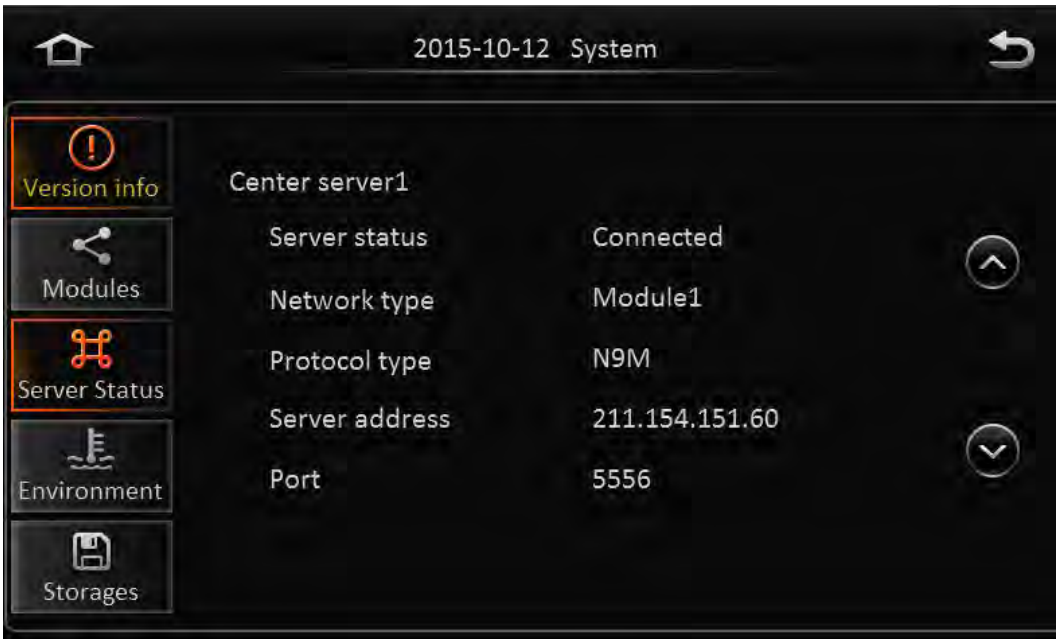
- System-Server status



- System - Environment

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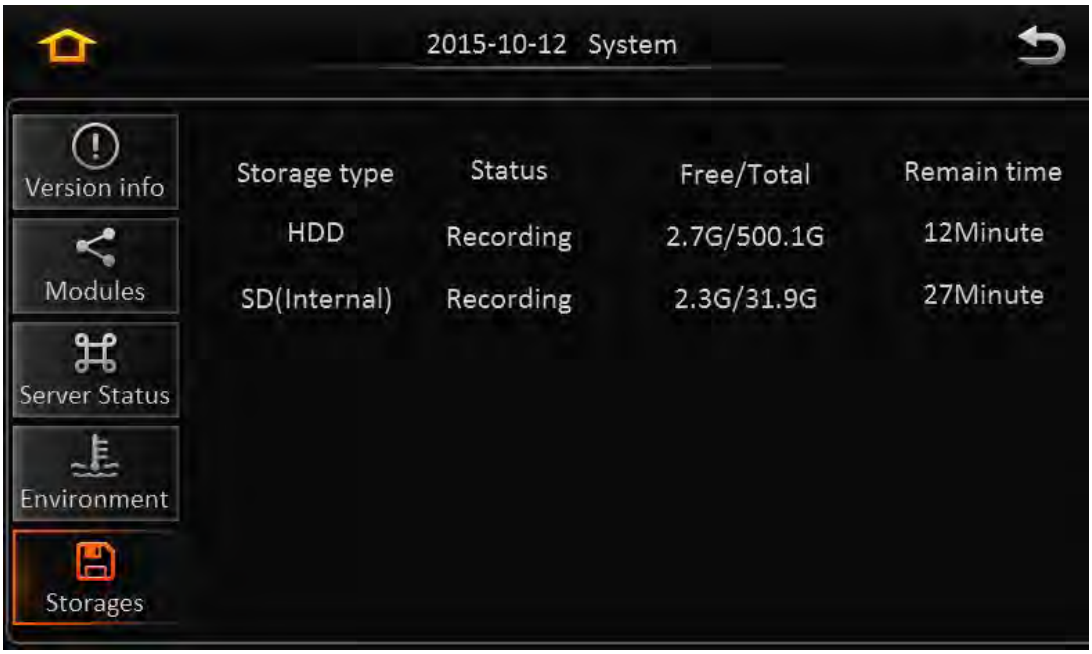
➢ System-Storage:



2.5. BASIC SETUP

Click setup button and enter the following interfaces:

2.5.1. REGISTER INFOMATION (SETUP VEHICLE INFORMATION)

➢ Register information-Device info:

Device ID: Currently, it is not useful.

- Register information- Vehicle info

Vehicle Number：When connected with PAD, the vehicle number is needed.

Vehicle plate：Input manually.

Line number：Input manually.

- Register information—Driver info:

Driver number: Input manually.
Driver name: Input manually.

2.5.2. TIME SETUP

- Time setup-General
  Date format: Setup the date format of device
  Time format: 24 hours or 12 hours
  Time zone: Range from -12th district ~ +13th district

- Time-Time Sync

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Date/Time: Device time, from 2000-01-01 to 2036-12-31

Satellite: Synchronize time with GPS satellite. Once GPS signal changes to valid, device will synchronize time

Center Server: synchronize time with center server

NTP sync: synchronize time with NTP server

Remark:

1) Synchronize time according to time zone
2) Multi-mode can be selected for time synchronization. If one works, the others take no affect. Otherwise, it switches to another sync mode every 5 minutes.

➢ Time setup-DST

Enable: Select to enable

Offset: After enabling DST, adjust the hour manually

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Mode: Setup DST according to week or date
Start: Time to start DST
End: Time to end DST

2.5.3. START UP

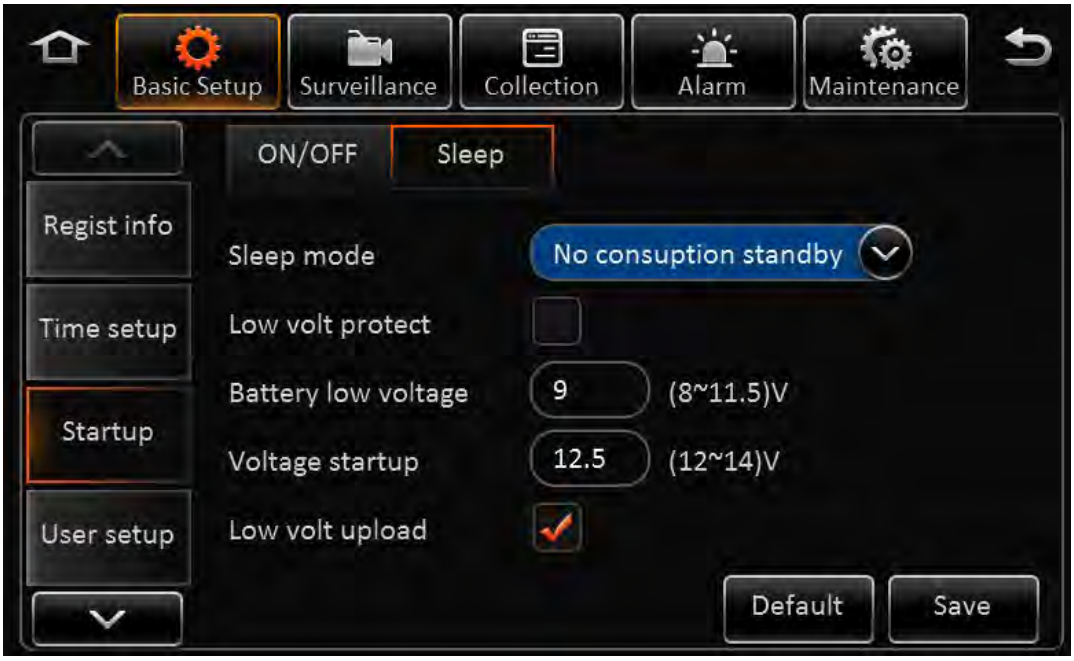
- Startup-ON/OFF

ON/OFF mode: 3 modes, including ignition, timer and ignition or timer.
Ignition: Input ignition delay time for shutdown delay function
Timer: When setup the start mode as Timer, please setup the start time and end time
Under this mode, MDVR's start up or shut down time will not affect the ignition.

Remark:

If use setup as Ignition or Timer Mode, Ignition ON or Timer start time can trigger MDVR start up. And only when Ignition off and Timer end time, MDVR will shut down.

- Start-Sleep



Sleep Mode: Currently, there is only no consumption standby mode available.
Low Volta protect: Enabling the low voltage shutdown protection mode selected.
Battery low voltage: Protect the vehicle battery. When consistently below the standard value, it will countdown shutdown. As for a 12V vehicle, the default is 9V, while a 24V vehicle is 21V.
Voltage start up: low-voltage protection, when the battery voltage is consistently greater than the standard value, it will automatically boot. As for a 12V vehicle, the default is 12.5V, while a 24V vehicle is 24.5V.
Low volt upload: The low-voltage protection will be reported to the platform after it is ticked.

2.5.4. USER SETUP

In the basic settings, click user settings, enter the following interface, user can enter setting menu.

User name: The default ones are admin and user.
User Group: It is divided into administrator and ordinary user.
It supports delete user function. Select the user and click "Delete User" button. Please be noted that the administrator cannot be deleted.
It supports add user function. Click "Add User" button, then enter the following interface.

Remark:

1) Only administrators can add users.
2) Users can add up to two.
3) User name cannot be empty, not the same with the existed user name while the user password can be empty.

User name and password can be modified. Select a user, click the "Edit User" button, enter the following interface:

Modify the user name and password to confirm the operation temporarily. There is no need to verify the old password, Administrator user name cannot be modified.

2.5.5. NETWORK

In the basic settings, click Network Settings, enter the following interface, user can set network parameters.

- Network - Local

For more information, please visit our website **www.xtscorp.com**

Automatically obtain IP: Dynamic acquisition, DNS can also be statically configured to dynamically obtain.

Use the following IP: Static IP, need to use a static DNS.

Remark:

Switch from static IP to automatically obtain IP mode, it can display dynamic IP, but the static IP parameters will not be covered, to restore the last saved static IP after switching back.

- Network Settings - Ports:

WEB port No.: The default is 80.

- Network- WIFI

Enable: Select to enable WIFI

ESSID: Manually input the address of AP

Encryption: It supports NONE, WEP and WPA

Password: Manually input

Static IP: Select to use static IP, or MDVR will get dynamic IP

- Network-Communication:

Dialing wireless network, user needs to choose the module type and setup dialing parameters

When entering the dialing setup interface, it searches the wireless module type automatically. It shows No Service when there is no module.

Network type: The default one is Mix, 2G/3G and 2G/3G/4G (Optional).

Dialing parameter：It includes access point, user name, password, data service number, and enter SIM

parameters provided by the manufacturer. The default is empty, the program comes with empty arguments by dialing.

Certification：Supports PAP or CHAP.

Remark:

When there is SIM and normal 3G/4G signal, it will dial automatically.

- Network- Server

Center server: It supports 6 servers at most, and server 1 cannot be deleted manually.

ON: Enable the current server.

Protocol type: The default one is N9M.

Enable network: There is local, WIFI and module optional

Register server address: To run the registration server address.

Registration server port: To run the registration server port.

Media server address: To run the media server address.

Media server port: To run the media server port.

2.5.6. APPLICATION

- Application-FTP Client

FTP Enable: Enable FTP.
Server: To run FTP server address.
Port: To run FTP server port. (The default one is 21.)
User name/password: The accounts distributed by FTP server.

2.6. SURVEILLANCE

2.6.1. LIVE VIEW

➢ Live view-->Preview

Real-time Setting Interface:

Preview audio: Enable the audio when live view the video.

Image setup: Set the live-view parameters, including brightness, contrast, etc.

Startup Screen: Set the live-view screen, it can be single-screen or quad screen or nine screen

Channel: Set the channel when live-view

➢ Live view-Auto Loop:

Screen: Totally 32 screens can be added.

Mode: 1x1, 2x2, 3x3 optional.

Channel: Included channel number.

For more information, please visit our website **www.xtscorp.com**

Duration: Duration for each screen.
Edit: Delete or Edit.
Add screen: Add polling screen
Auto polling: Enable the auto pulling

- Live view-Live OSD :

It displays the information on screen, such as time, speed, license plate, GPS...
The default is only the time, and the position cannot be set.

2.6.2. RECORD

- Record-->General

Video type: Default is PAL, NTSC optional

For more information, please visit our website **www.xtscorp.com**

Overwrite: The earliest recording file will be deleted while the HDD or SD card is full to realize loop recording.

Lock duration: Protect the record file to be deleted by fault, default is 7 days.

Pre-recording: Pre-record before the alarm happens. Default is 15min, 0-60min optional.

- Record-->Main Stream:

Channel: The total channel numbers of the device, including analog and digital channels.
Channel name: Change the name manually.
Enable: Enable the main stream record function
Resolution: The analog channel supports D1/HD1/CIF/WD1/WHD1/WCIF while the digital one supports 720P.
Frame Rate: Frame Rate of the recording.
Quality: Picture Quality of the recording.
Record mode: Ignition, Time, Event optional. Each channel can be set separately. The sub-stream and mirror record are the same
Audio: Enable the audio. Note: Audio cannot be record separately
I frame: Enable to let the frame rate invalid, record file that does not have alarm is I frame only.
Alarm quality: The alarm image is different from the normal recording image.
Encode mode: It supports VBR and CBR modes.

- Record- Dual stream

For more information, please visit our website **www.xtscorp.com**

Storage: The storage type for sub stream, internal SD and external SD optional.

Record mode: Mirror record, alarm back-up record and sub stream.

- **Mirror record:** Channel is selectable. Video resolution and frame rate are the same with main stream.
- **Alarm backup:** Channel is selectable. The parameters are the same with main stream
- **Sub stream:** Channel is selectable. Recording parameters are configurable

Sub stream includes channel number, enable or not, audio, resolution, frame rate and image quality.

Sub stream channel: It is selectable according to recording mode.

➢ Record-->OSD

For more information, please visit our website **www.xtscorp.com**

Embedded key information to video file for easily check when playback.

2.6.3. IPC SETUP

- IPC setup:

For more information, please visit our website **www.xtscorp.com**

Channel: It includes the analog channels and IPC channels. Analog channel will not be shown if it connects to network camera.

Enable: Enable to operate IPC.

IP and port: Display channel details after searching.

Setup: Search and edit IP camera recording parameters

Fast setup: Search all the IP cameras in LAN network, and auto assign IP address to IP camera.

IPC local address: To search network camera of local area network at Intranet. The default one is 10.100.100.1.

2.6.4. PTZ

Channel: It includes analog channels and IPC channels.
Enable: Enable PTZ.
Operate: It includes serial, N9M and ONVIF. It supports Pelco-D and Pelco-P PTZ protocols with serial mode.
Address: It is valid with serial mode.
Test: It is to test PTZ is available or not. Click it to pop up PTZ control panel.

2.7. DATA COLLECTION

2.7.1. GENERAL

- General-->Sensor

For more information, please visit our website **www.xtscorp.com**

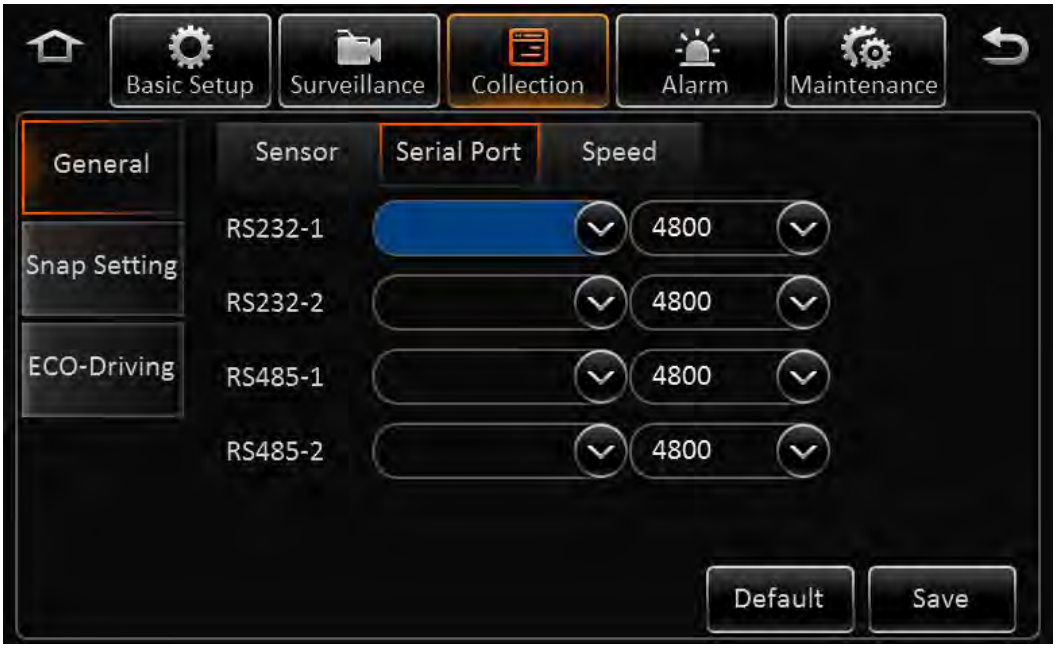
Sensor number: The total alarm input numbers of MDVR.

Sensor name: IO sensor name, it can set manually. The sensor name of alarm setting interface will update synchronously after setting.

OSD name: The information embedded to video image.

Copy: Copy the configuration and use it for other sensors.

- General-->Serial port:



RS232-1 and RS232-2, with the following features: three axis sensor, expansion, 485 bus and GPS data.

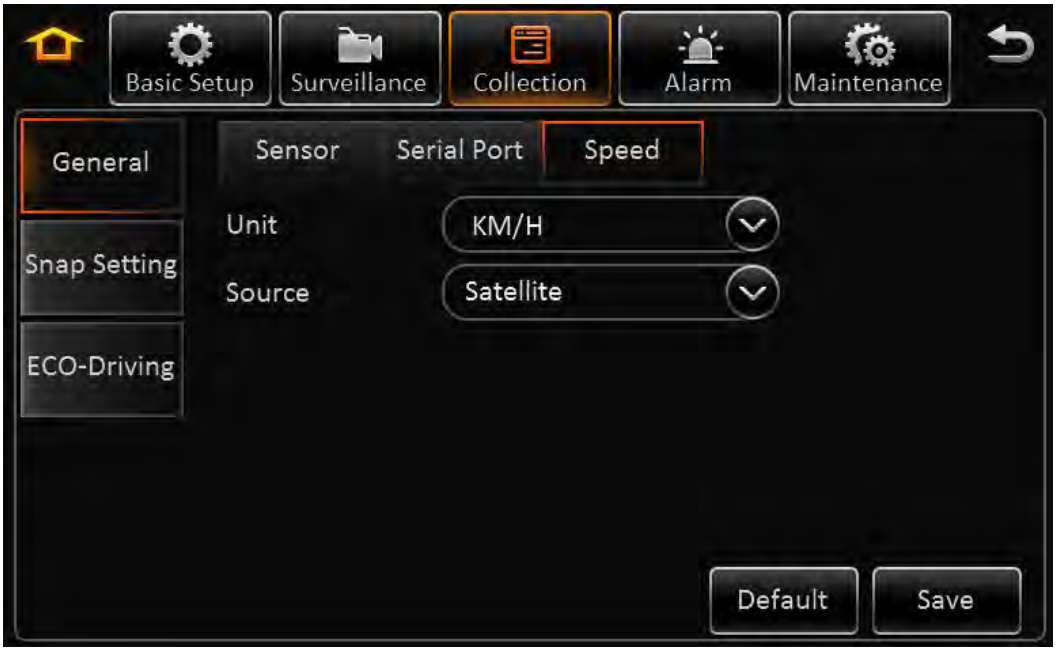
RS485-1 and RS485-2, with the following features: PTZ, control panel, 485 bus and GPS data.

Baud Rate: 2400-115200, 9 classes optional.

Remarks:

Some models have 4 serial ports, while others have only one RS232 port, but it can realize the following features: expansion, control panel, 485 bus, GPS data, three axis sensor, and PTZ.

- General-->speed

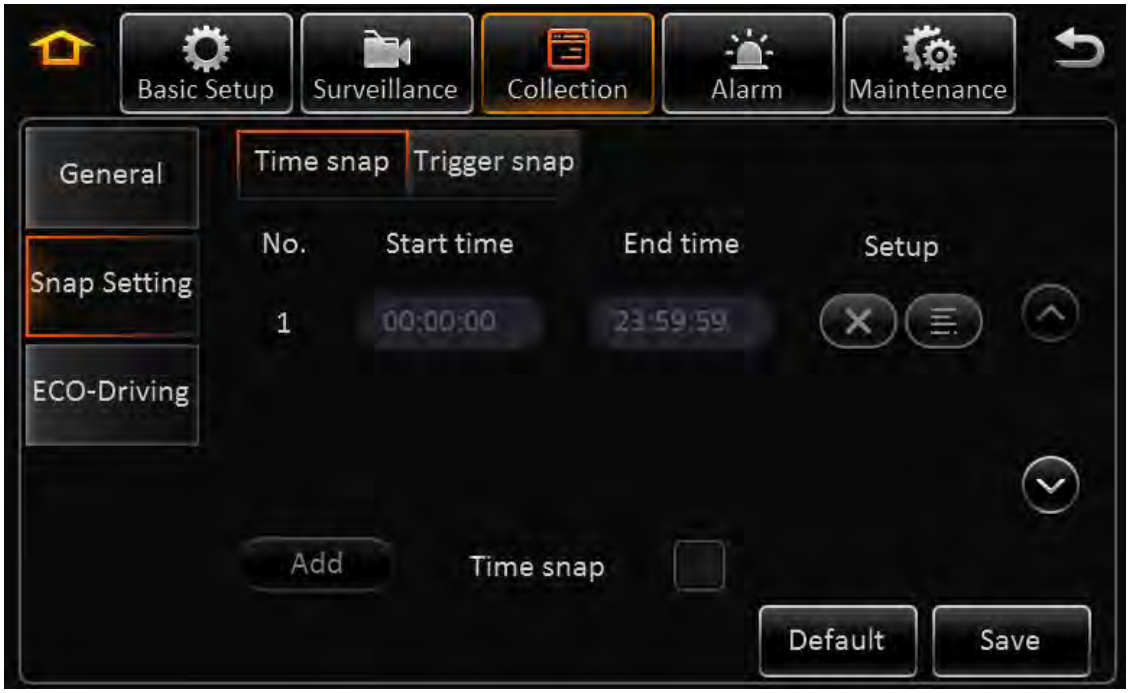


Unit: KM/H and MPH selectable.
Source: GPS, pulse or both optional.
Calibration mode: No need to calibrate if setup as satellite mode.

2.7.2. SNAP SETTING

- Snap Setting-->Time snap

For more information, please visit our website **www.xtscorp.com**



Start time: Start to snap.

End time: Stop snapping.

Setup: Delete and set.

Time snap: Enable to snap at the setting time.

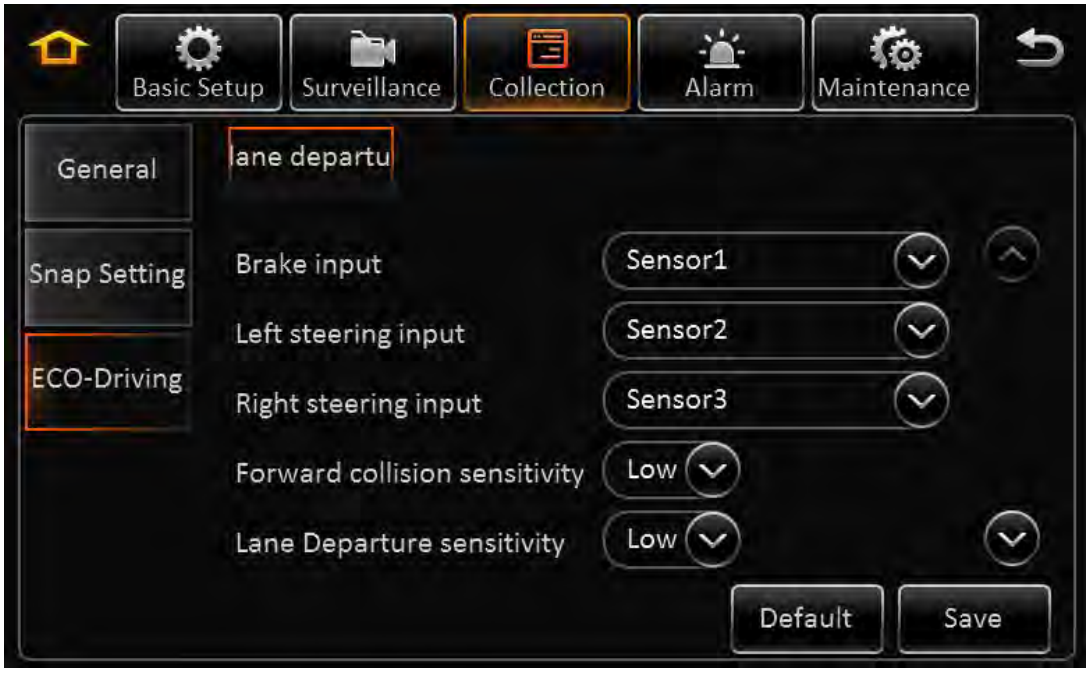
Add: To add snap period, and it supports 8 pieces at most.

- Snap Setting--> Trigger snap

For more information, please visit our website **www.xtscorp.com**

Trigger snap: It snaps when alarm is trigger.

2.7.3. ECO-DRIVING (It is still developing.)



For more information, please visit our website **www.xtscorp.com**

2.8. ALARM

2.8.1. BASE

- Base-->Speed alarm

For more information, please visit our website **www.xtscorp.com**

Name: The current name is over speed

Enable：Enable or disable, tick to enable

Alarm type: It includes the following types, important and general.

Trigger:

Over speed pre alarm difference: To set the pre alarm data. For example, if speed is 60 km/hour, and over speed pre alarm difference is 10 km/hour, TSS sends over speed alarm broadcast and records when it reaches 50 km/h.

Speed: It is the alarm speed.

Alarm duration: Alarm output duration

Linkage: When alarm triggered, link to other business operation.

Channel: Link to recording channel, optional.
Post recording: It means the recording duration after the alarm has been removed.
Lock: Enable to link recording lock when there is alarm.
3G network: When it is set as sensor trigger dial mode, it enables 3G network as it triggers alarm.
Linkage IO output: Enable to link alarm output when alarm is triggered.
Output delay time: It means the alarm output duration after alarm is removed.
Alarm upload: Enable to upload to platform.
Linkage screen: Enable to link the channel to show full image when there is alarm. (Depends on the MDVR model, display split 1/4/9 optional.)
PB alarm duration: It means the available alarm duration after urgent alarm is removed.
Alarm snap: Enable to link snap.

- Base- Panic alarm:

Name: The current name is panic.

Enable：Enable to panic button.

Alarm type: Important type and general type optional.

Trigger: Click any button to delay the time till it reaches the setting time to alarm.

Linkage: When alarm is triggered, link to business operation.

For more information, please visit our website **www.xtscorp.com**

Channel: Link to recording channel, optional.
Post recording: It means the recording duration after the alarm has been removed.
Lock: Enable to link recording lock when there is alarm.
3G network: When it is set as sensor trigger dial mode, it enables 3G network as it triggers alarm.
Linkage IO output: Enable to link alarm output when alarm is triggered.
Output delay time: It means the alarm output duration after alarm is removed.
Alarm upload: Enable to upload to platform.
Linkage screen: Enable to link the channel to show full image when there is alarm. (Depends on the MDVR model, display split 1/4/9 optional.)
PB alarm duration: It means the available alarm duration after urgent alarm is removed.
Alarm snap: Enable to link snap.

- Base – IO alarm interface:

Name: From Sensor1 to Sensor8 (It includes all the alarm input numbers.)

Enable: Enable the sensor alarm.

Alarm type: Important type and general type optional.

Trigger: Low and high optional. It triggers alarm when it is low as default.

Linkage: When alarm is triggered, link to business operation.

Channel: Link to recording channel, optional.
Post recording: It means the recording duration after the alarm has been removed.
Lock: Enable to link recording lock when there is alarm.
3G network: When it is set as sensor trigger dial mode, it enables 3G network as it triggers alarm.
Linkage IO output: Enable to link alarm output when alarm is triggered.
Output delay time: It means the alarm output duration after alarm is removed.
Alarm upload: Enable to upload to platform.
Linkage screen: Enable to link the channel to show full image when there is alarm. (Depends on the MDVR model, display split 1/4/9 optional.)
PB alarm duration: It means the available alarm duration after urgent alarm is removed.
Alarm snap: Enable to link snap.

2.8.2. VIDEO

- Video-Video loss

Name: The default name is video loss.
Enable: Enable the video loss.
Alarm type: Important type and general type optional.
Trigger:

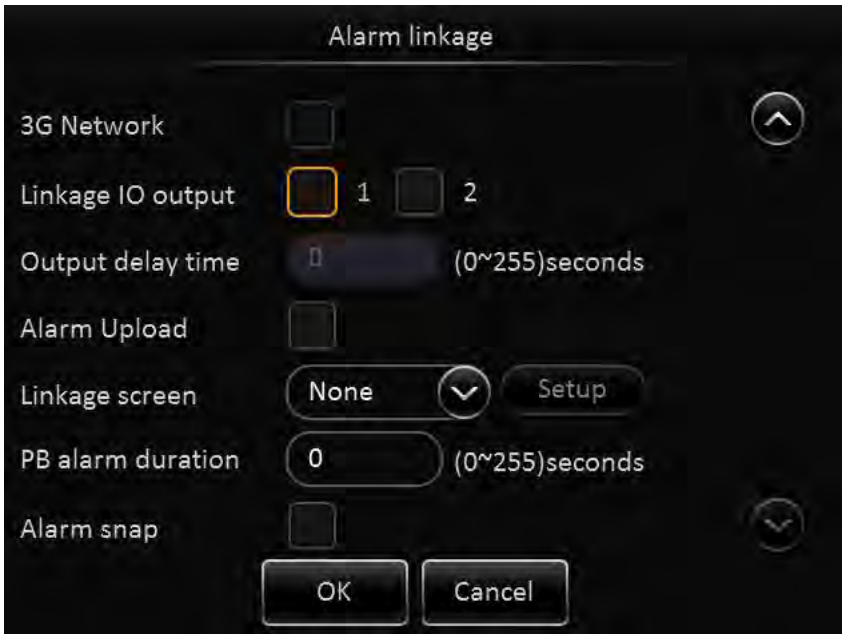
For more information, please visit our website **www.xtscorp.com**

Video loss set: It includes all video channels that can be selected.

Set period: Set the checking period when video loss alarm is triggered.

Linkage: When alarm is triggered, link to business operation.

For more information, please visit our website **www.xtscorp.com**



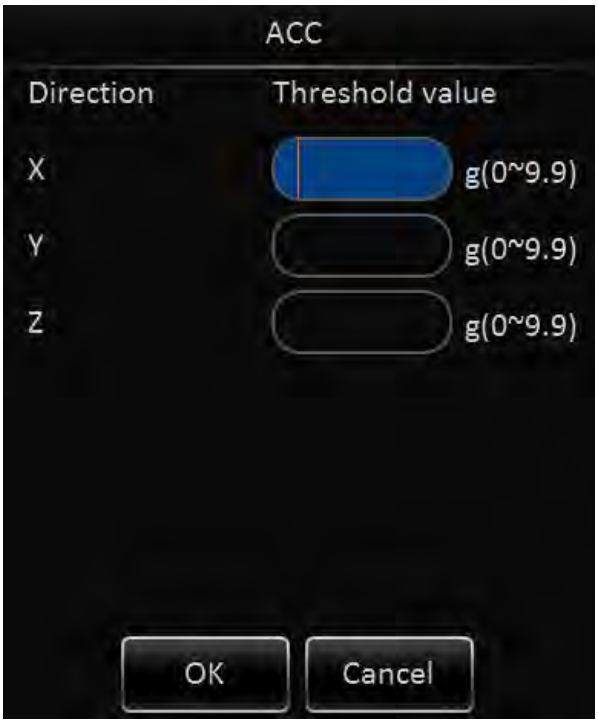
Channel: Link to recording channel, optional.
Post recording: It means the recording duration after the alarm has been removed.
Lock: Enable to link recording lock when there is alarm.
3G network: When it is set as sensor trigger dial mode, it enables 3G network as it triggers alarm.
Linkage IO output: Enable to link alarm output when alarm is triggered.
Output delay time: It means the alarm output duration after alarm is removed.
Alarm upload: Enable to upload to platform.
Linkage screen: Enable to link the channel to show full image when there is alarm. (Depends on the MDVR model, display split 1/4/9 optional.)
PB alarm duration: It means the available alarm duration after urgent alarm is removed.
Alarm snap: Enable to link snap.

2.8.3. ADVANCE

Name: The default name is ACC alarm.

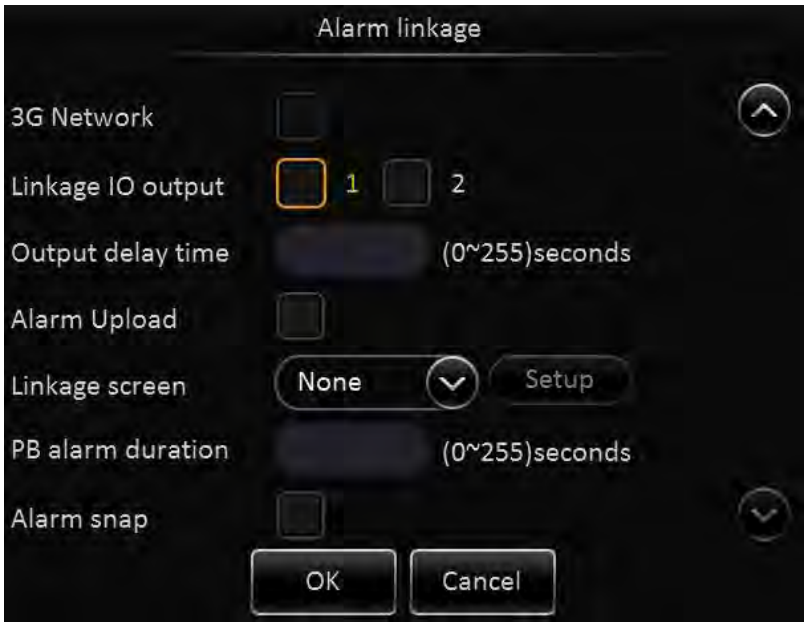
Enable: Enable the ACC alarm.

Trigger: Set the threshold value of X/Y/Z.



Linkage: When alarm is triggered, link to business operation.

For more information, please visit our website **www.xtscorp.com**



Channel: Link to recording channel, optional.

Post recording: It means the recording duration after the alarm has been removed.

Lock: Enable to link recording lock when there is alarm.

3G network: When it is set as sensor trigger dial mode, it enables 3G network as it triggers alarm.

Linkage IO output: Enable to link alarm output when alarm is triggered.

Output delay time: It means the alarm output duration after alarm is removed.

Alarm upload: Enable to upload to platform.

Linkage screen: Enable to link the channel to show full image when there is alarm. (Depends on the MDVR model, display split 1/4/9 optional.)

PB alarm duration: It means the available alarm duration after urgent alarm is removed.

Alarm snap: Enable to link snap.

X:0.0, Y:0.0, Z:0.0: The real time acceleration information.

2.9. MAINTENANCE

After login, click setup>Maintenance, and then enter into the page as follow.

2.9.1. CONFIGURATION

In the configuration page, user can export and import the configuration file.

Insert flash drive to export the configuration file to the root folder, the file name is ***ConfigFile***

Insert flash drive to import configuration file into MDVR, and it will display the notice when import successfully.

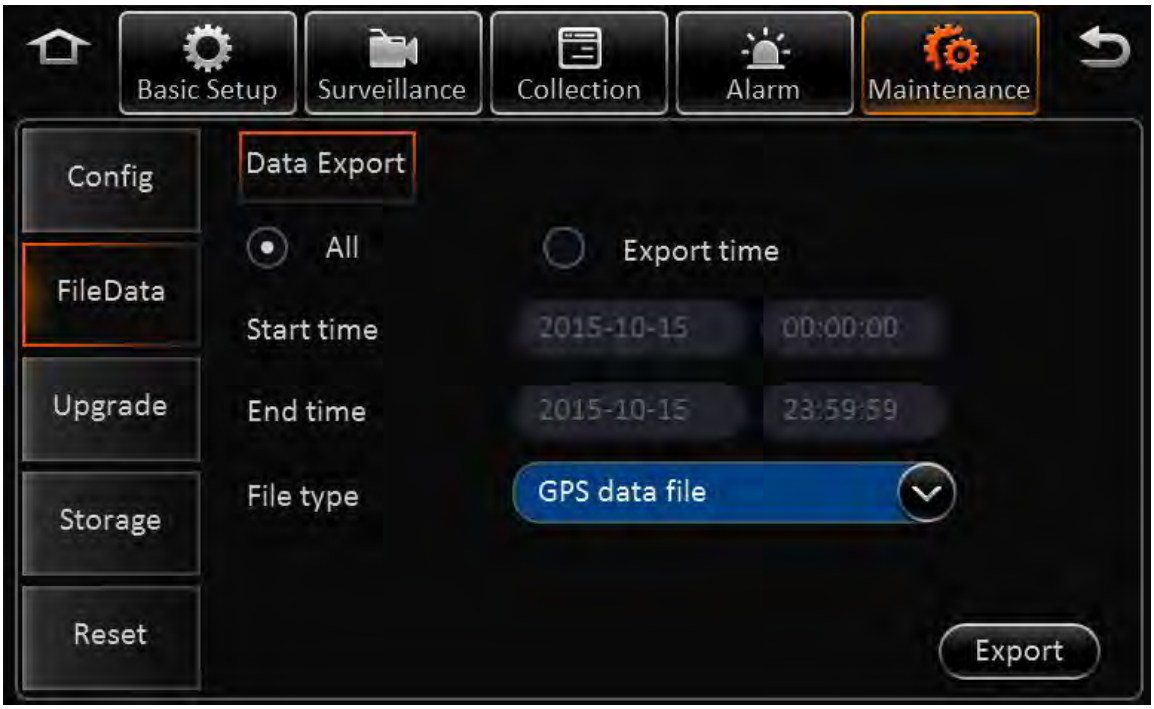
Remark:

It won't import the register info and speed adaption info.

2.9.2. DATA EXPORT

User can export any file.

File type: GPS data file, vehicle info file, ACC info file, Can info file, Dial info file and Captured pic.



2.9.3. UPGRADE

In the page of upgrade, user can upgrade software.

Put the upgrade file in flash drive. Currently, device firmware, microcontrollers firmware, CP4 firmware and IPC firmware can be put inside.

Insert flash drive and enter the upgrade interface, click software upgrade and it will indicate that upgrade file is importing.

MDVR reboot up and enter into upgrade interface after importing successfully.

Remark:

1) Make sure don't power off during upgrading.
2) Put the upgrade file into the folder "upgrade", which is at the root directory if the USB drive
3) It support upgrade firmware, LOGO, MCU, and MCU for CP4.
4) Firmware and MCU will package in one file, and it will upgrade MCU first, and then firmware.
5) The name of the LOGO are: logo_update(10.12.15).jpg and logo_cvbs(11.12.15).jpg
6) Please don't put many files in the same folder when it is upgrading, otherwise, it will upgrade one randomly.

2.9.4. STORAGE

In this page, user can format all the storage.

Storage type: HDD, SD card (Internal), SD card (External), USB drive

Free/Total

- Not exist: Didn't find the HDD (not install or broken)
- Unformatted: Means the HDD has been detected, but unformatted.(New HDD)
- Capacity info: Display the correct info means HDD working fine

Format:

Click format and it will refresh the current formatted volume information after formatting successfully.

It can record after formatting successfully and no need to reboot up.

For more information, please visit our website **www.xtscorp.com**

2.9.5. DEFAULT

In this page, you can click the default button to reset the parameters to factory settings.

Click reset to restore the original data.

Remark:

For, language, MAC address, register info, CMS server info, speed adaption parameter will not change during default settings.

3. WEB MANAGEMENT

3.1. LOGIN INTERFACE

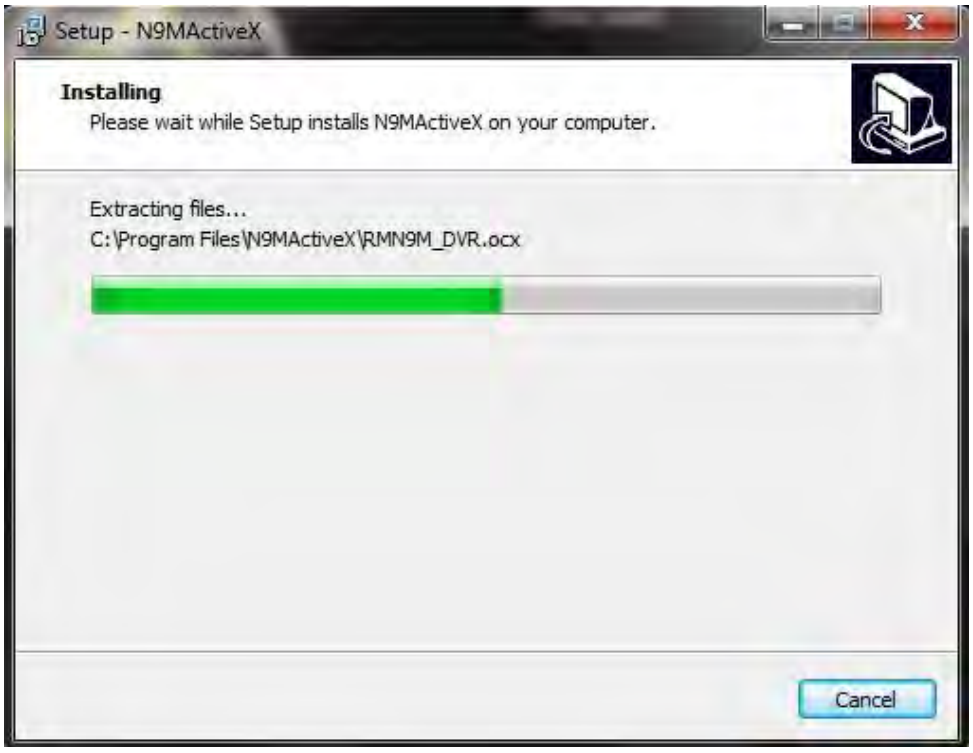
1) Connect MDVR into local area network, set relevant information to make sure the computer can visit the MDVR.

2) Open browser and input http:// IP address of MDVR. It will go to the WEB login interface of MDVR. And the default IP address is 192.168.1.100

3) Interface will pop up a window to install N9M activex, click install.

4) Refresh the web page, enter default user name admin/admin to log in.

Internet Explorer - Security Warning
Do you want to install this software?
Name: N9M_ACTIVEX
Publisher: GIEC Electronics Co.,Ltd
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?



3.2. MAIN INTERFACE

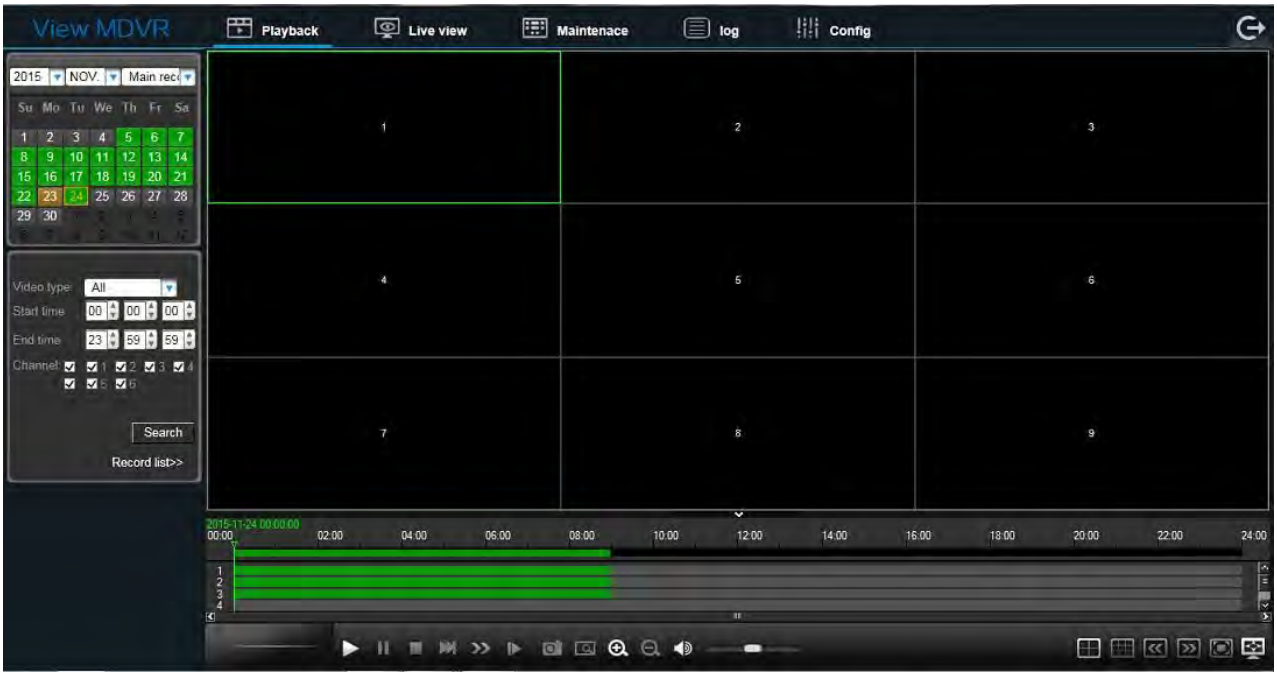
For more information, please visit our website **www.xtscorp.com**

Icons: quad, 9-split, preview, next page, sound, capture and video parameters.

Stream switch: main stream, sub-stream and network transmission sub stream.

Log out: log out and come to the log in interface

3.3. PLAYBACK



If the date is marked as color green, it means there is recording.

For more information, please visit our website **www.xtscorp.com**

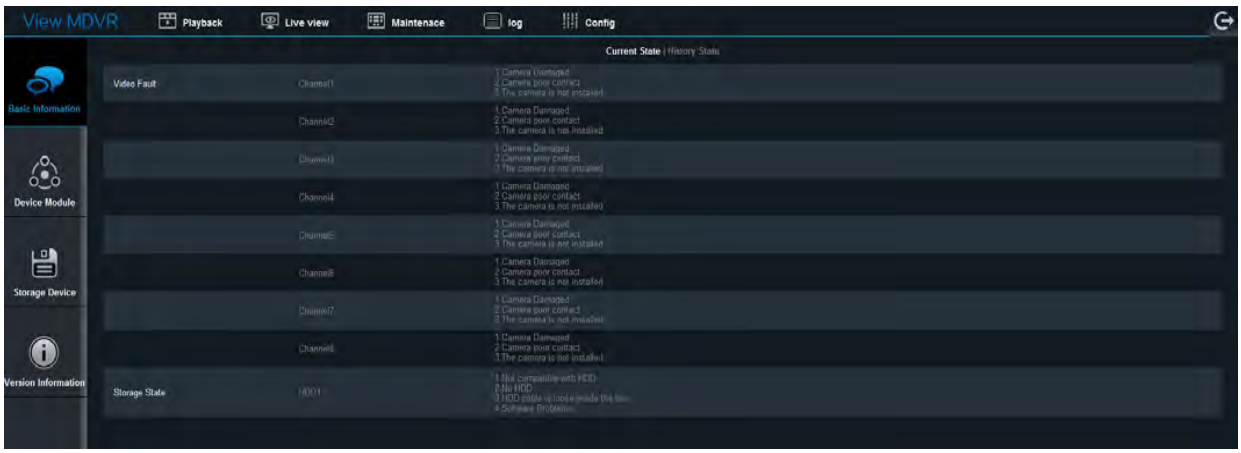
Recording playback window: Video window, play time-line, play control button, window switch...

Record list: It displays all the record. Click backup download video file to local computer hard disk.

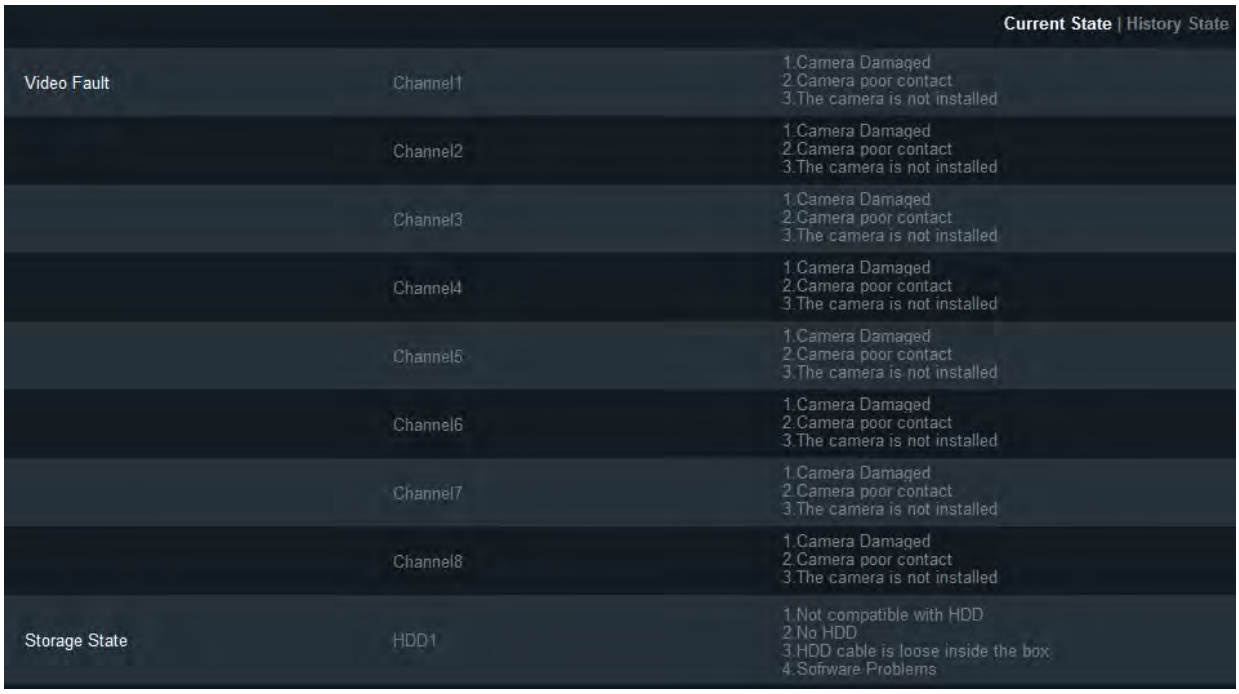
3.4. MAINTENANCE

For more information, please visit our website **www.xtscorp.com**

3.4.1. BASIC INFORMATION



Basic information: It contains the current state & history state of channel video and storage.

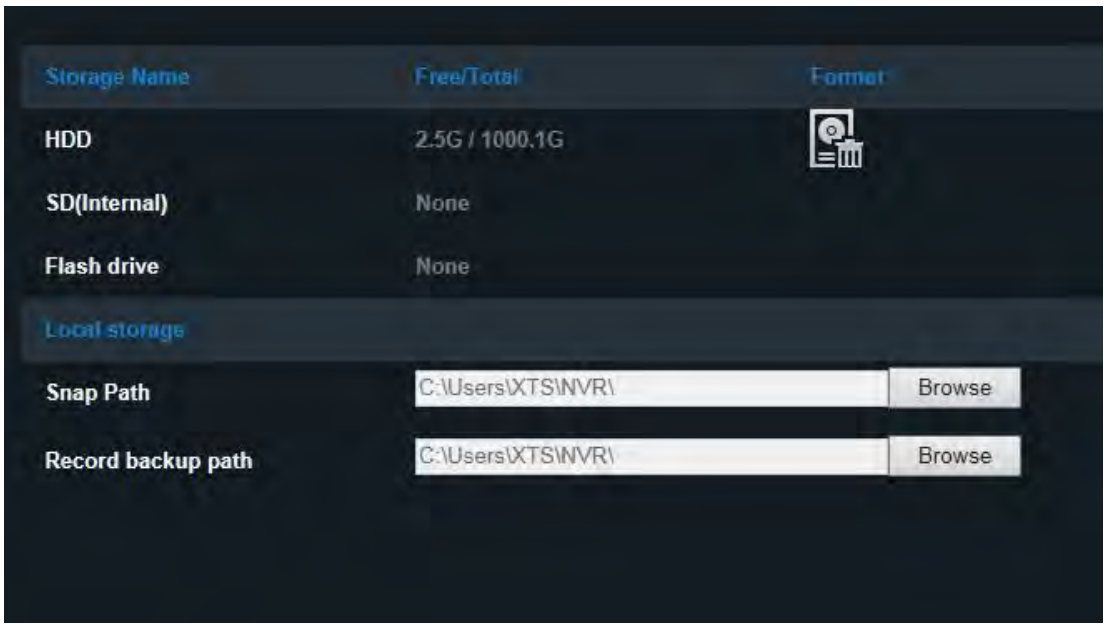


3.4.2. DEVICE MODULE

Device module: It is about the current state of module, WIFI module and satellite location module.

3.4.3. STORAGE DEVICE

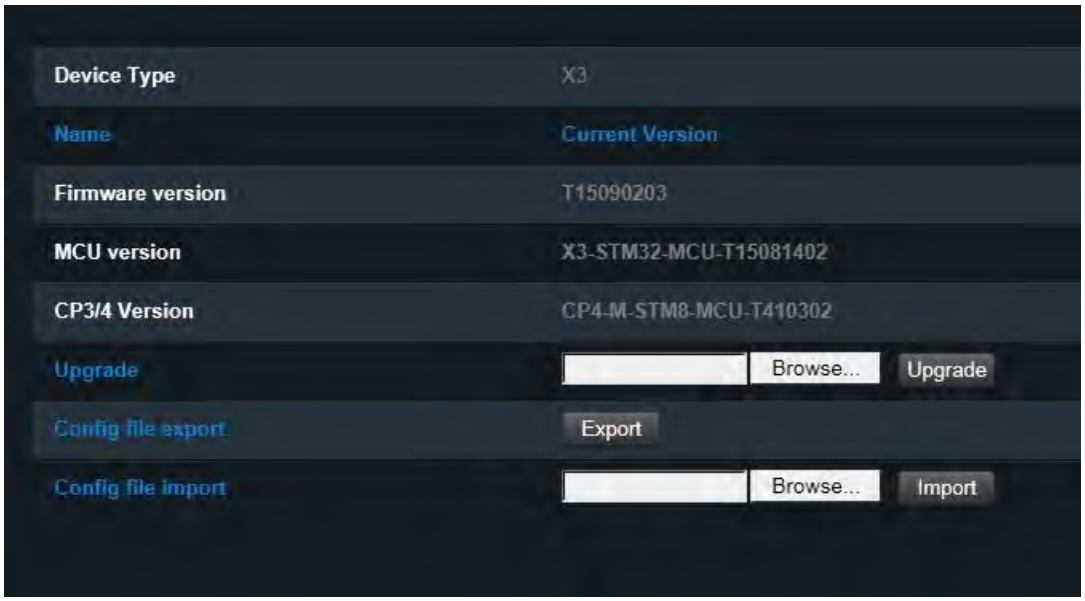
Storage device: There are the volume information & format operation of storage (hard disk/flash drive/SD card), and the path of snap & record backup.



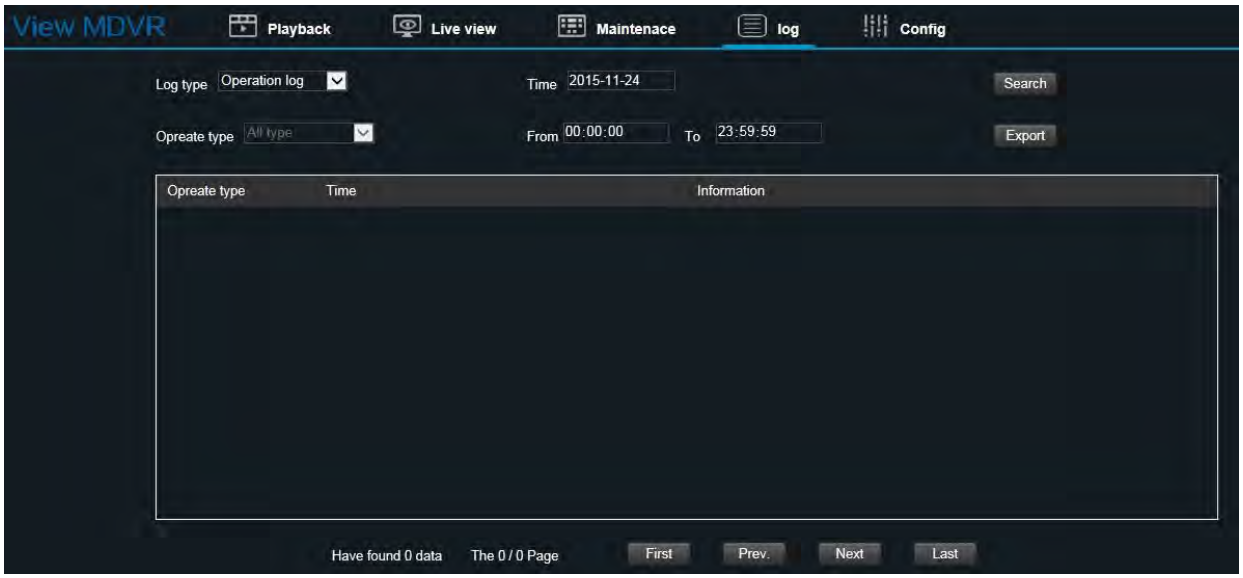
For more information, please visit our website **www.xtscorp.com**

3.4.4. VERSION INFORMATION

Version information: There are device type, name, firmware version, MCU version, CP3/4 version, upgrade, configuration file export and configuration file import.



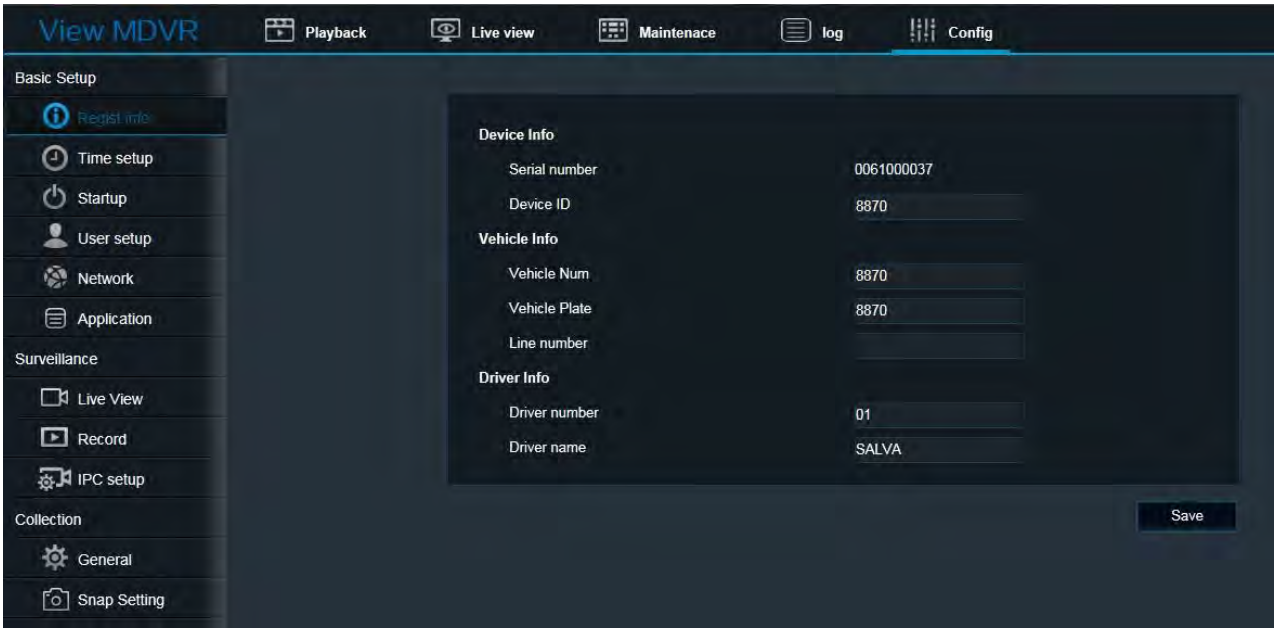
- Log



Log: There is Log type (operation log, alarm log and locked log), operation type (IO alarm, panel alarm, speed alarm, video loss and ACC alarm) date, and log export.

3.5. CONFIGURATION

For more information, please visit our website **www.xtscorp.com**



The parameter setting is the same as the local setting. User can view the operation at the local setting.

For more information, please visit our website **www.xtscorp.com**

4.STORAGE CAPACITY CALCULATION

1) Image Quality & Streams

Resolution	Image quality	1	2	3	4	5	6	7	8
Stream Kbps	720P	6144	4800	4128	3456	2784	2112	1440	768
	WD1	2662	1997	1599	1331	1170	1040	936	832
	WHD1	1664	1248	998	832	728	650	585	520
	WCIF	1040	780	624	520	455	405	364	325
	D1	2048	1536	1230	1024	900	800	720	640
	HD1	1280	960	768	640	560	500	450	400
	CIF	800	600	480	400	350	312	280	250

2) Record File Size Calculation

Rec. file size for each channel is:

Recording time (s) x Stream (Kbps) / 8 / 1024 = File Size (MB)

e.g. The file size of the Image 1 with D1 resolution within 1 hour:

3600 x 2048 Kbps / 8 / 1024 = 900 MB

3) **Image Quality & Resolution**

Resolution	Image quality	1	2	3	4	5	6	7	8
Record **(MB)**	720P	2700	2109	1814	1518	1223	928	632	337
	WD1	1170	878	702	585	514	456	411	365
	WHD1	731	549	438	365	320	285	257	229
	WCIF	456	343	274	229	199	178	160	143
	D1	900	675	540	450	395	351	316	281
	HD1	562	422	337	281	246	219	198	176
	CIF	351	264	211	176	153	137	123	110

5.FREQUENTLY ASKED QUESTIONS

1) The system can't start?

Usually this problem results from the incorrect power connection. Please follow below steps to check the power connection:

1. Check the input power, whether the power wire is connected correctly, whether the ground wire is connected back to the battery, and whether the fuse on the power wire is in good condition.
2. Check whether the ACC signal wire input to the power is with voltage higher than 7 V.
3. Check whether the device key is closed.

2) The MDVR restarts uninterruptedly?

Please follow below steps to check it:

1. Check whether the voltage of MDVR is insufficient. If the voltage is less than the start-up voltage of the device, the device would always restart.
2. The problem in hard disk/SD card may cause the failure to start. Take off the storage part and check whether it is broken down.

3) The device can't record?

Usually this problem results from the storage disk or camera. Please follow below steps to check it:

1. Check whether the storage disk is installed, whether it is in good contact, and whether the disk can be read normally in computer.
2. Check whether the storage disk is formatted. The storage disk should be formatted before normally storing record files.
3. Check whether there is video signal input into the device from camera, and whether there is video/image on the screen.

4) There is no voice in record file?

Please follow below steps to check it:

1. Check whether there is an external pickup, or whether the camera features with the function of audio collection.
2. Access to Video Channel Settings, check if Audio is set on.
3. There must be video input into the channel for recording and it must record normally.

5) The GPS works abnormally?

Please follow below steps to check it:

1. Check whether the GPS antenna is installed correctly. There is a silk print logo on the GPS antenna holder behind the host device.
2. Check whether the antenna receiver is sheltered. It should not be covered by any stuff, which may cause it not to receive signals.
3. Environmental influence such as tree shades, being inside tunnel, driving near tall building or elevated roads, thunderstorms or other weather influence, etc. can also cause signal loss or receiving wrong signals.

6) The device can't shutdown in ignition switch mode?

Please follow below steps to check it:

1. Check if the ACC line connection mode is correct; and check whether there is voltage on ACC yellow line when the key is turned off.
2. If the device has been set with schedule recording, it can't shutdown if it is still during recording time

of the task table.

7) Which IP waterproof level does MNVRHB device support?

Currently, support waterproof IP 54.

8) How to install the WIFI antenna?

The antenna must be installed on unobstructed place of the roof, and be fixed with glue.

9) The device cannot be shut down when in ignition ON/OFF mode.

Check if the ACC signal wiring is correct and if there is voltage for ACC signal line after the key is turned off .

If you have set timing recording, and at the current time it is still in task recording, the device may be impossible to be shut down.

10) GPS anomaly.

Check if the GPS antenna is properly installed. There is silkscreen GPS identification on the GPS antenna pedestal on the back of the MDVR device. Check if the antenna connector is blocked and make sure the antenna connector not be covered by other things.

Trees block, being inside the tunnel, driving near tall buildings or viaduct, thunderstorms and other environmental effects may also cause to receive no GPS signal or error signal.

11) No voice in video files.

See if there is an external microphone, or if the camera cannot capture audio;

Enter into the video channel settings, then check if the audio is open;

Ensure video input and normal recording, on which the audio recording channels must be based.

12) The device doesn't record.

Make sure the storage part is installed and of fine contact, the data can be read on PC, and the storage device is not formatted.

Check if there are video signal input to the main device, and whether there are video images in the channel pictures.

13) Why has the MDVR device always been in a state of restart?

Check whether the MDVR device voltage is insufficient. If the device voltage does not reach the start voltage, the device will restart.

Hard disk or SD card may cause the MDVR device unable to start. You need to remove the storage device and then boot up to verify whether it is caused by the storage device.

14) Why the MDVR device cannot start?

Check the device input power to see if the power wiring is correct, if there is ground wire connected back to the battery, and if the fuse of the power wire is in good condition;

Check whether there is voltage(more than 7V) on power input ACC signal wire;

Check whether the hard disk key is turned off.

15) What is the log in user name and password for new device?

The default user name and password are both "admin". The device password can be set as empty.

16) How to update the firmware?

Change the previous file folder name "dvrupgrade" to "upgrade". Change the file name FWX15-0401-05-01-V01V01V01V491087 to RMMDVR_X5_III_T2014111005_convert

17) In the ON/OFF of basic settings, the low voltage protection is 8V, why?

After testing, when the battery is lower than 8V, the voltage will lower down quickly. Therefore the lowest voltage is set to be 8V. When it is lower than 8V, the MDVR device will recognize it as external power-off and then enter into shutdown state.

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